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Research Article

Taxonomic Revision of the Genus *Sinocrepis* Chen, 1933 (Coleoptera: Chrysomelidae: Galerucinae: Alticitae)

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Abstract

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The species-group names of the genus *Sinocrepis* Chen, 1933, were re-evaluated. *Sinocrepis micans* Chen, 1933, as a junior synonym of *S. obscurofasciata* is supported by examining types and genital characters from a large number of specimens. In addition, *S. nigripennis*, Chen 1936, and *S. fulva* Kimoto, 1996 are herein synonymized with *S. obscurofasciata*. A new species, *S. kimotoi*, sp. nov. is described based on two specimens from Thailand that were misidentified as *S. obscurofasciata*. New data on the biology of *S. obscurofasciata* are provided.

Key words: Leaf beetle, Malvaceae, *Hibiscus tiliaceus*, *Hibiscus taiwanensis*, *Malvaviscus arboreus*.

INTRODUCTION

The monotypic genus *Sinocrepis* was established by Chen (1933) based on *S. micans* Chen, 1933 from China. This type species was synonymized with *Crepidodera obscurofasciata* Jacoby, 1892 from Myanmar by Scherer (1969), who also transferred the latter species to *Sinocrepis*, thereby maintaining the validity of the genus. Subsequently, *S. nigripennis* Chen, 1936, the second species, was described from Sri Lanka. Kimoto (1996) described the third and final species, *S. fulva* Kimoto, 1996 from Taiwan.

Adults of the genus *Sinocrepis* can be recognized by a combination of the following characters: pronotum and elytra glabrous; pronotum with ante-basal impression, with ends bounded by a short, longitudinal impression extending to basal margin, length of ante-basal impression more than 1/2 width of pronotum (Figs. 1A, 1E, 1F, 1H); postantennal tubercles short, not extending to interantennal space (Fig. 1I); elytron with indistinct, closely placed rows of punctures; hind tibia with a simple apical spine (Yang *et al*. 2015).

Sinocrepis obscurofasciata is a common and widespread species in East and South Asia. It was recorded from Taiwan by Chen (1934) for the first time (as *S. micans*), followed by many subsequent records (Chûjô 1935, 1963a, 1963b; Kimoto 1966, 1970, 1986, 1987, 1989, 1991). The species also occurs in Myanmar, India, and Sri Lanka (Scherer 1969), Laos (Medvedev 2009), Vietnam (Medvedev 2015), and Thailand (Kimoto 2000).

Kimoto (1996) described *Sinocrepis fulva* as new, mainly based on its distinctive yellow coloration from the bicolored form of *S. obscurofasciata* in Taiwan, without comparing their aedeagi. The yellow color pattern also appears on types of *S. obscurofasciata*. In addition, *S. nigripennis* is likely a synonym of *S. obscurofasciata*, since both species are sympatric

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in Sri Lanka. In the present study, we determined the validity of these species by examining their type specimens, voucher specimens, and other available materials, with emphasis on the aedeagal features, and provided new biological information for *S. obscurofasciata*.

MATERIALS AND METHODS

In total, 524 specimens were available for the present study, including 131 specimens obtained through extensive collections made by the Taiwan Chrysomelid Research Team (TCRT) (Lee 2025), and 294 specimens were collected and deposited at the Taiwan Agricultural Research Institute during 1979–1984. At least three males and females from each species were examined to delimit variability of diagnostic characters. For species collected from more than one locality or exhibiting color variations, at least one pair of each sex from each locality and color morph was examined. Length was measured from the anterior margin of the eye to the elytral apex, and width at the greatest width of the elytra. Terminology for adult morphological structures follows Duckett & Daza (2004). Names of plant species follow "Taiwan Encyclopedia of Life, TaiEOL" (TaiEOL n.d.). Specimens studied herein are deposited at the following institutes and collections:

(1) KMNH: Kitakyushu Museum of Natural History and Human History, Kitakyushu, Japan [Yûsuke Minoshima];
(2) MCSN: Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy [Roberto Poggi];
(3) MNHN: Muséum national d'Histoire naturelle, Paris, France [Christophe Rivier, Antoine Mantilleri];
(4) NHMUK: The Natural History Museum, London, UK [Michael F. Geiser];
(5) NMNS: National Museum of Natural Science, Taichung, Taiwan [Bao-Cheng Lai];
(6) SDEI: Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany [Mandy Schröter];
(7) SEHU: Laboratory for Systematic Entomology, Hokkaido University, Sapporo, Japan [Munetoshi Maruyama];
(8) TARI: Applied Zoology Division, Taiwan Agricultural Research Institute, Taichung, Taiwan [Chi-Feng Lee].

Label data of type specimens are cited verbatim, with a double slash (//) dividing the data on different labels and a single slash (/) denoting those on different lines on the same label. Other comments and remarks are in square brackets: [p]- preceding data are printed, [h]- preceding data are handwritten, [w]- white label, [b]- blue label, [g]- green label, and [r]- red label. Traditional Chinese fonts are added to the names of localities.

RESULTS

Sinocrepis obscurofasciata (Jacoby)

Crepidodera obscurofasciata Jacoby, 1892: 933 (Myanmar).

S. obscurofasciata: Scherer 1969: 119 (India, Sri Lanka); Kimoto 1986: 60 (Taiwan); Kimoto 1987: 191 (Taiwan); Kimoto 1989: 262 (Taiwan); Kimoto 1991: 18 (Taiwan including Ludao Island 綠島); Medvedev 2009: 167 (Laos); Medvedev 2015: 72 (Vietnam); Kimoto 2000: 272 (Thailand, in part); Ruan & Yang 2017: 220 (China: Shaanxi).

S. micans Chen, 1933: 233 (China: Guizhou); Chen 1934: 181 (Taiwan); Chûjô 1935: 462 (Taiwan including Lanyu Island 蘭嶼); Chûjô 1963a: 402 (Taiwan); Chûjô 1963b: 28 (Taiwan); Gressitt & Kimoto 1963: 760 (China: Hubei, Jiangxi, Zhejiang); Kimoto 1966: 35 (Taiwan); Kimoto 1970: 216 (Taiwan). Synonymized with *S. obscurofasciata* by Scherer (1969).

Sinocrepis nigripennis Chen, 1936: 85 (Sri Lanka). **syn. nov.**

Sinocrepis fulva Kimoto, 1996: 46 (Taiwan). **syn. nov.**

Types. *Crepidodera obscurofasciata*. Lectotype ♂ (Figs. 1A–C) (MCSN, here designated for clarifying its taxonomic status): "Bhamò / Birmania / Fea [p] VII [h] 188[p]5 [h,

w] // Crepidodera / obscurofasciata / Jac. [h, b] // obscurofasciata / Jac. [h, w] // SYNTYPUS [p] / Crepidodera / obscurofasciata / Jacoby, 1892 [h, r] // Museo Civico / di Genova [p, w]". Paratype. 1♀ (MCSN): "Bhamò / Birmania / Fea [p] VII [h] 188[p]5 [h, w] // SYNTYPUS [p] / Crepidodera / obscurofasciata / Jacoby, 1892 [h, r] // Museo Civico / di Genova [p, w]".

Sinocrepis nigripennis. Lectotype ♂ (SDEI, here designated for clarifying its taxonomic status): "Anuradhapura / W. Horn 1899 [p, w] // Ohen det. [p, w] // Sinocrepis / nigripennis [h] / S. H. CHEN det. [p, w] // Syntypus [p, r] // SDEI Münchebrg / Col – 24240 [p, g]". Paralectotypes. 1♂, 3♀ (SDEI) (Fig. 1E), same data as lectotype, but lacking determination label, with "24235, 24239 (Fig. 1D), 24241, or 24242"; 1♀ (SDEI): "Nalanda / W. Horn 1899 [p, w] // Sinocrepis / nigripennis / n. sp. [h, w] // Syntypus [p, r] // SDEI Münchebrg / Col – 24236 [p, g]"; 2♀ (SDEI) "Nalanda / W. Horn 1899 [p, w] // Syntypus [p, r] // SDEI Münchebrg / Col – 24237 or 24238 [p, g]".

Sinocrepis micans. Lectotype ♂ (Figs. 1H–K) (MNHN, here designated for clarifying its taxonomic status): "MUSEUM PARIS / KOUY-TCHÉOU / RÉG. DE PIN-FA / PÈRE CAVALERIE 1909 [p, w] // Sinocrepis / micans / n. g. n. sp. [h] / S. H. CHEN det. [p, w] // TYPE [p, w, red letters] // SYNTYPE [p, r] // SYNTYPE / Sinocrepis / micans Chen, 1933 [p, w] // MNHN, Paris / EC56910 [p, w]". There should be another syntype deposited at the MNHN according to the original description (Chen 1933).

Sinocrepis fulva. Paratype. 1♀ (KMNH): "(Taiwan) / Oluanpi (= 鵝鑾鼻) / Pingtung [p, w] // 20[h]. iii.1966 / K. Yano et / H. Kajita [p, w] // Japan-U. S. / Co-op. Sci. / Programme [p, y] // PARATOPOTYPE [p, b] // Sinocrepis / fulva / Kimoto, n. sp. [h] / Det. S. Kimoto 19 [p, w]". This is the only type found at the KMNH. According to the original description (Kimoto 1996), the holotype and one additional paratype were not found at the SEHU, where both types were deposited.

Specimens examined. CHINA. Guandong: 1♂, 1♀ (TARI), Shenzhen (深圳), 12.III.2019, leg. M.-B. Jiang; Hubei: 1♂ (KMNH), Sulho, Lichuan (利川), 14.IX.1948, leg. Gressitt & Djou; Zhejiang: 2♂ (NHMUK), Haining (海寧), leg. J. J. W., G. C. Champion Coll., B.M.1927-409; **LAOS.** Phongsaly: 1♂ (NHMUK), Phongsaly env., Phu Fa, 1,450–1,600 m, 26.VII.2006, leg. M. Geiser; **TAIWAN.** Chiayi: 1♂, 2♀ (TARI), Arisan (= Alishan, 阿里山), 2-23.X.1918, leg. J. Sonan; 1♂ (NMNS), Alishan Tapan (達邦), 14.II.1989, leg. K. W. Huang; Hsinchu: 10♂, 12♀ (TARI), Wufeng (五峰), 400 m, 14-16.VII.1982, leg. K. C. Chou & C. C. Pan; Hualien: 1♂ (TARI), Antung (安通), 14-17.II.1984, leg. K. C. Chou & C. C. Pan; 1♂ (TARI), Karenko (= Hualien, 花蓮), 20.VII.-4.VIII.1919, leg. T. Okuni; Kaohsiung: 1♂, 3♀ (TARI), Liukuei (六龜), 27-28.VI.1981, leg. L. Y. Chou & C. H. Yang; 1♂, 1♀ (TARI), Tengchih (藤枝), 2-5.VI.2008, leg. C.-F. Lee; Kinmen: Kinmen Island, 1♀ (TARI), Chungshanlin (中山林), 28.VI.2023, leg. C.-F. Lee; same island, 3♂, 6♀ (TARI), Tzuhu (慈湖), 14.VI.2018, H.-D. Fang; Lieyu Island, 10♂, 6♀ (TARI), Hsishanhu (習山湖), 13.X.2022, leg. T.-C. Wang; 5♂, 9♀ (TARI), same locality, 16.II.2023, leg. C.-F. Lee; 3♂, 4♀ (TARI), same but with "12,VII.2023"; Miaoli: 1♂, 2♀ (NHMUK), Daan River SW of Sanyi (三義), 150 m, 26-28.X.2008, leg. L. Dembický; Nantou: 1♂ (TARI), Hoshe (和社), 1,000 m, 22.VII.1982, leg. L. Y. Chou & T. Lin; 28♂, 22♀ (TARI), Lushan (廬山), 1,000 m, 27-31.V.1980, leg. K. S. Lin & L. Y. Chou; 1♂ (TARI), Meifeng (梅峰), 2,150 m, 8.VI.1980, leg. K. S. Lin & B. H. Chen; 1♂ (TARI), same locality, 24-26.VI.1981, leg. K. S. Lin & W. S. Tang; 1♂ (TARI), same locality, 4-7.X.1982, leg. K. C. Chou; 1♀ (TARI), Musha (= Wushe, 霧社), 1,150 m, 18.V.-15.VI.1919, leg. T. Okuni; 1♂, 1♀ (TARI), same locality, 23-28.VI.1981, leg. K. S. Lin & W. S. Tang; 1♂ (TARI), same locality, 6.XI.1981, leg. S. C. Lin & W. S. Tang; 1♂ (TARI), same locality, 14.VII.1982, leg. S. C. Lin & C. N. Lin; 7♂, 2♀ (TARI), same locality, 30.VIII.-2.IX.1982, leg. L. Y. Chou & K. C. Chou; 1♂, 1♀ (TARI), same locality,

7-8.X.1982, leg. K. C. Chou; 2♂, 2♀ (TARI), same but with "17.VIII.1984"; 1♂ (KMNH), Puli (埔里), 11.VII.1966, leg. H. Kamiya; 2♂, 3♀ (TARI), Tsuifeng (翠峰), 2,300 m, 25-27.VI. 1981, leg. K. S. Lin & W. S. Tang; 7♂, 5♀ (TARI), Tungpu (東埔), 1,200 m, 25-29.IX.1980, leg. L. Y. Chou & T. Lin; 7♂, 3♀ (TARI), same locality, 28.IV.-2.V.1981, leg. T. Lin & C. J. Lee; 8♂, 3♀ (TARI), same locality, 5-8.X.1981, leg. T. Lin & W. S. Tang; 12♂, 9♀ (TARI), same locality, 18-23.XI.1981, leg. T. Lin & W. S. Tang; 1♂, 2♀ (TARI), same locality, 19-23. VII.1982, leg. L. Y. Chou & T. Lin; 2♀ (TARI), same locality, 22-25.XI.1982, leg. K. C. Chou & S. P. Huang; 8♂, 8♀ (TARI), same locality, 20-24.VI.1983, leg. K. C. Chou & C. Y. Wong; 2♂, 2♀ (TARI), same locality, 23-27.VII.1984, leg. K. C. Chou & C. H. Yang; New Taipei: 2♀ (TARI), Linshanpi (麟山鼻), 15.IX.2007, leg. M. -H. Tsou; 1♀ (TARI), Yehliu (野柳), 6.XI.2008, leg. S.-F. Yu; Pingtung: 7♀ (TARI), Chuanfanshih (船帆石), 16.I.2010, leg. C.-F. Lee; 1♂, 2♀ (TARI), Koshun (= Hengchun, 恆春), 25.IV.-25.V.1918, leg. J. Sonan; 1♂, 2♀ (TARI), Kuaru (= Sheding, 社頂), 15.VI.1937, leg. M. Chujo; 1♂ (TARI), same locality, 2-6.VIII.1982, leg. K. C. Chou & C. N. Lin; 3♂ (TARI), Kuraru (= Sheding, 社頂), 21-25.VIII.1932, leg. Y. Miwa; 4♂, 4♀ (TARI), same locality, 1-4.III.1956, leg. K. S. Lin; 1♀ (TARI), same but with "15.V.1933"; 6♂, 3♀ (TARI), Lungkeng (龍坑), 29.III.2010, leg. J.-C. Chen; 2♂, 2♀ (TARI), Shantimen (三地門), 1-5.III.1982, leg. K. C. Chou & C. C. Pan; 3♂, 1♀ (TARI), Tsaopu (草埔), 24.II.2024, leg. J.-C. Chen; 2♂, 2♀ (TARI), Wanliteshan (萬里得山), 20.II.2007, leg. S.-F. Yu; Taichung: 4♂, 6♀ (TARI), Chiapaotai (加保台), 750 m, 14-18.X.1980, leg. K. S. Lin & C. H. Wang; 41♂, 55♀ (TARI), Kukuan (谷關), 730 m, 20-22.VI.1978, leg. K. S. Lin & K. C. Chou; 11♂, 6♀ (TARI), same locality, 14-17.X.1980, leg. K. S. Lin & C. H. Wang; 3♂, 6♀ (TARI), Wanfeng Hill (萬豐), 4-8.VII.1981, leg. W. S. Tang; Tainan: 4♂ (NMNS), Chingshan (青山), 18.IV.1992, leg. C. Y. Li; Taipei: 8♂, 15♀ (TARI), Chihshanyan (芝山岩), 11.VIII.2007, leg. M.-H. Tsou; 1♂ (TARI), Chutzuhu (竹子湖), 25.IX.2007, leg. S.-F. Yu; 1♀ (NMNS), Inner Lake (內湖), 12-14.IX.1988, leg. K. S. Huang; 1♀ (TARI), Kueitzukeng (貴子坑), 3.VIII.2006, leg. H.-T. Cheng; 2♂, 4♀ (TARI), Peitou (北投), 31.XII.2006, leg. M.-H. Tsou; 1♂, 1♀ (TARI), Taihoku (= Taipei City, 臺北市), 4.XI.1915, leg. M. Maki; 2♂, 2♀ (TARI), same locality, IX.1911, leg. I. Nitobe; 1♂, 1♀ (TARI), same locality, 11.VII.1932, leg. S. Minowa; 5♂, 6♀ (TARI), Tansui (= Tamsui, 淡水), 24.VIII.1941, leg. S. Miyamoto; 2♂, 2♀ (SEHU), Yangmingshan (陽明山), 24.VI.1965, leg. S. Kimoto; 1♂ (KMNH), same data as preceding; Taitung: 3♂, 4♀ (NHMUK), 14 km W of Chihshang (池上), 900 m, 16.XI.2008, leg. L. Dembický; 1♂ (TARI), Kotosho (= Lanyu Island, 蘭嶼), 30.VII.1908, leg. T. Shiraki; 1♂, 1♀ (TARI), same locality, 10.III.-14.IV.1920, leg. J. Sonan & T. Okuni; 2♂, 1♀ (TARI), same island, 22-26.III.1998, leg. C.-F. Lee; 1♂, 2♀ (NHMUK), same island, Yung Hsin Farm (永興農場), 29-30.VII.2008, leg. H. Mendel & M. V. L. Barclay; 1♂ (TARI), same island, 29.III.2009, leg. U. Ong; 5♂ (TARI), same island, 18.III.2012, leg. J.-C. Chen; Taoyuan: 3♂, 11♀ (TARI), Fuhsing (復興), 500 m, 6.V.1983, leg. K. C. Chou & C. C. Pan; **THAILAND.** 1♀ (KMNH), Chieng Dao, 15.VI.1965, leg. K. Morimoto.

Redescription. Male. Length 2.34–2.66 mm, width 1.20–1.33 mm. General color dark brown to blackish brown, head and prothorax yellow, legs and antennae yellow but hind femora darkened (Figs. 2A–C). Antenna (Fig. 3A) filiform, antennomeres I and II slender, III–X apically widened, ratio of length of antennomeres I–XI 1.0 : 0.6 : 0.5 : 0.5 : 0.5 : 0.5 : 0.6 : 0.6 : 0.6 : 0.6 : 0.9, ratio of length to width from antennomeres I–XI 2.7 : 1.9 : 2.9 : 2.8 : 2.2 : 1.9 : 2.0 : 1.9 : 2.0 : 2.0 : 2.9. Pronotum 1.63–1.64 times wider than long; lateral margins slightly rounded, anterolateral angles separated from lateral margins by weak emarginations,

apical margin slightly concave, basal margin moderately convex; disc smooth, lacking punctures. Elytra 1.33–1.37 times longer than wide; lateral margins rounded, widest at basal 1/4, apex convergent; dorsoventrally slightly convex, apex visible in dorsal view; disc with longitudinal lines of coarse punctures; with fine punctures between longitudinal lines. Tarsomeres I of the front and middle legs are swollen. Aedeagus (Figs. 3C–D) elongate, 4.1 times longer than wide; parallel-sided, subapically narrow, apex pointed; moderately curved in lateral view.

Female. Length 2.62–2.69 mm, width 1.28–1.33 mm. Antennae similar to those of males, ratio of length of antennomeres I–XI (Fig. 3B) 1.0 : 0.6 : 0.6 : 0.6 : 0.6 : 0.6 : 0.7 : 0.7 : 0.7 : 0.7 : 1.0; ratio of length to width from antennomere I–XI 3.3 : 2.3 : 2.7 : 2.4 : 2.5 : 2.1 : 2.1 : 2.0 : 2.0 : 2.0 : 3.1. Elytra 1.40–1.45 times longer than wide; lateral margins rounded, widest at basal 1/4, apex convergent; dorsoventrally slightly convex, apex visible in dorsal view; disc with longitudinal lines of coarse punctures; with fine punctures between longitudinal lines. Gonocoxae (Fig. 3F) are extremely slender, separated; each gonocoxa has eight long setae from apical 1/4 to apex, subapically slightly curved. Ventrite VIII (Fig. 3E) is weakly sclerotized apically, with a narrow apical area dense short setae along the apical margin, and some long setae arranged into a transverse row in lateral areas near the apical margin; the spiculum is extremely elongate. Spermathecal receptaculum (Fig. 3G) is slightly swollen, with transverse wrinkles at the basal half; the pump is slender and curved; the sclerotized spermathecal canal is short before the base of the spermathecal gland.

Color variation. Some populations from Taiwan and Myanmar have entirely yellow bodies (Figs. 2D–F). The Taiwanese populations were described as *S. fulva* Kimoto, 1996, based on this color variation. Yellow populations in Taiwan are allopatric from bicolored populations, which have been recorded from Chuanfanshih (船帆石), Lungkeng (龍坑), Oluanpi (鵝鑾鼻), and Yehliu (野柳) along the seashore (Fig. 4).

Diagnosis. The variable color patterns are not diagnostic for adults of *S. obscurofasciata* since this character is variable. This species can be identified by the apically tapering and pointed apex of the aedeagus, which is moderately curved in lateral view (Figs. 3C–D).

Food Plants. Malvaceae: *Hibiscus tiliaceus* L. (黃槿) (Figs. 5A–B), *H. taiwanensis* S. Y. Hu (山芙蓉) (Fig. 5E), *Malvaviscus arboreus* Cav. (南美朱槿) (Figs. 5C–D). In China, adults feed on *H. syriacus* L. (木槿) and *H. mutabilis* L. (木芙蓉) (Yu *et al*. 1996). Adults do not feed on *Hibiscus rosa-sinensis* L. (朱槿) even though they have been observed feeding on *Malvaviscus arboreus* located nearby (personal observation).

Taxonomic notes. *S. fulva* Kimoto, 1996 is proposed as a junior synonym of *S. obscurofasciata* based on their similar aedeagi and their shared food plant, *H. tiliaceus* L. (Fig. 5B).

Biological notes. Adults have been observed feeding on leaves of host plants. They occur in the lowlands year-round, but only a few are present at high elevations during the warmest season. The species co-occurs with *Nisotra gemella* (Erichson, 1834), also feeding on *H. tiliaceus* and *N. nigripes* Jacoby, 1894, feeding on *H. taiwanensis* (Fig. 5F), based on the field observations.

Distribution. China, Myanmar, Laos, Vietnam, Thailand, India, Sri Lanka, Taiwan, including Kinmen Island (new record), Lieyu Island. (new record), Ludao Island and Lanyu Island. Adults are widespread in the lowlands of Taiwan (Fig. 4). The new species, *S. kimotoi*, sp. nov., is confused with *S. obscurofasciata* in Thailand. Records from Vietnam and India need further confirmation since no voucher specimens were studied.

Sinocrepis kimotoi, sp. nov.

S. obscurofasciata: Kimoto 2000: 272 (Thailand). (misidentification!)

Types. Holotype ♂ (KMNH) (Figs. 1F–G). **THAILAND.** Fang, 14.VI.1965, leg. K. Morimoto. Paratype. **THAILAND.** 1♂ (KMNH). Khao Chong nr Trung, 25.VI.1965, leg. K. Morimoto. Both types were misidentified as *S. obscurofasciata* by Kimoto (2000).

Description. Male. Length 2.73 mm, width 1.42 mm. General color blackish brown, elytra black, head and prothorax yellow, legs and antennae blackish brown, but three basal antennomeres paler (Fig. 1F). Antenna (Fig. 6A) filiform, antennomeres I and II slender, III–X apically widened, ratio of length of antennomeres I–XI 1.0 : 0.6 : 0.5 : 0.5 : 0.6 : 0.6 : 0.8 : 0.8 : 0.7 : 0.7 : 1.1, ratio of length to width from antennomeres I–XI 2.5 : 2.0 : 2.3 : 1.9 : 2.2 : 2.0 : 2.4 : 2.3 : 2.2 : 2.1 : 3.4. Pronotum 1.47 times wider than long; lateral margins slightly rounded, anterolateral angles separated from lateral margins by weak emarginations, apical margin slightly concave, basal margin moderately convex; disc smooth, lacking punctures. Elytra 1.31 times longer than wide; lateral margins rounded, widest at basal 1/4, apex convergent; dorsoventrally slightly convex, apex visible in dorsal view; disc with longitudinal lines of coarse punctures; with fine punctures between longitudinal lines. Tarsomeres I of front and middle legs swollen. Aedeagus (Figs. 6B–C) elongate, 4.3 times longer than wide; parallel-sided, subapically widened, apex widely rounded with truncate process at middle; slightly curved in lateral view, apex curved.

Diagnosis. Adults of *S. kimotoi*, sp. nov. can be separated from those of *S. obscurofasciata* by the blackish-brown antennae and legs, the subapically widened aedeagus, which is straight in lateral view and curved apically.

Food Plants. Unknown.

Etymology. This new species is named after the late Dr. Shinsaku Kimoto, a chrysomelid taxonomist active from the 1960s to 2000s. He described more than two hundred new species and reported numerous new records from Taiwan.

Distribution. Thailand.

DISCUSSION

The distribution of *S. obscurofasciata* corresponds with that of its food plants. Adults of *S. obscurofasciata* are frequently found around human habitations because *Malvaviscus arboreus* is an introduced ornamental tree. The species is also common in mountainous areas where another food plant, *H. taiwanensis*, occurs. Moreover, they can survive on small islands (Fig. 4) provided that suitable food plants are present. *H. tiliaceus* (黃槿) is a coastal species utilized by *S. obscurofasciata*, which has been recorded from Lanyu Island (蘭嶼), Ludao Island (綠島), Lieyu Island (烈嶼), and Kinmen Island (金門島). Another alticite beetle, *Nisotra gemella* (Lee *et al*. 2024), also feeds on *H. tiliaceus* (黃槿), which has been recorded from Kinmen Island (金門島) and Beigan Island (北竿島). Among Taiwanese leaf beetles, *Phola octodecimguttata* (Fabricius, 1775) is recorded from many small islands of Taiwan, including Penghu Island (澎湖), Dongji Island (東吉嶼), Lanyu Island (蘭嶼), Liuchiu Island (琉球嶼), Lieyu Island (烈嶼), Dadan Island (大膽島), Kinmen Island (金門島), and Beigan Island (北竿島) due to the occurrence of one of its host plants, *Vitex rotundifolia* (海埔姜), a coastal species (Lee & Geiser 2023). Now, *Phola octodecimguttata* is also found at the Ludao Island (綠島) (unpublished data). Presumably, *S. obscurofasciata* will be recorded from more islands if extensive and continuous collection can be conducted.

The results indicate that specimens should be studied more carefully since adults of *S. kimotoi*, sp. nov., have been confused with those of *S. obscurofasciata*. Examination of aedeagi is crucial for species identification in the morphology-based taxonomic studies of Chrysomelidae (Lee *et al*. 2010; Lee 2015, 2016). Records of *S. obscurofasciata* from Myanmar, China, Thailand, Laos, Sri Lanka, and Taiwan were confirmed by examination of aedeagi. Records from other countries, such as India and Vietnam, still need further investigation.

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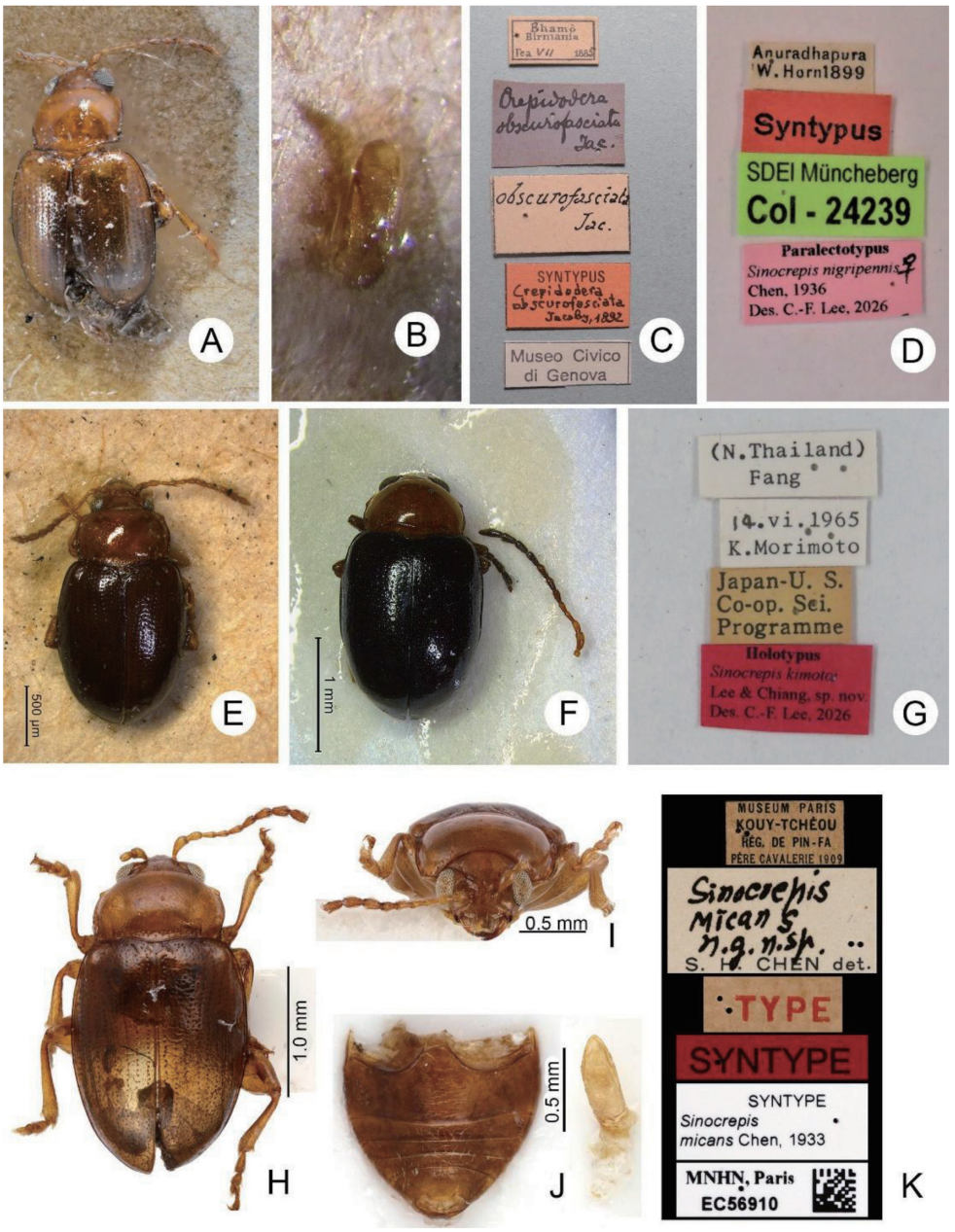

Fig. 1. Type specimens and labels of *Sinocrepis obscurofasciata*, its synonyms, and *S. kimotoi* sp. nov. A–C: *Crepidodera obscurofasciata*, A. lectotype, dorsal view; B. aedeagus, dorsal view; C. labels; D–E: *S. nigripennis*, D. labels; E. paralectotype, dorsal view; F–G: *S. kimotoi* sp. nov., F. holotype, dorsal view; G. labels; H–K: *Sinocrepis micans*, H. lectotype, dorsal view; I. ditto, front view; J. abdomen and aedeagus; K. labels.

Fig. 2. Color variations of *Sinocrepis obscurofasciata*. A. typical color pattern, dorsal view; B. ditto, ventral view; C. ditto, lateral view; D. color variation identified as *Sinocrepis fulva*, dorsal view; E. ditto, ventral view; F. ditto, lateral view.

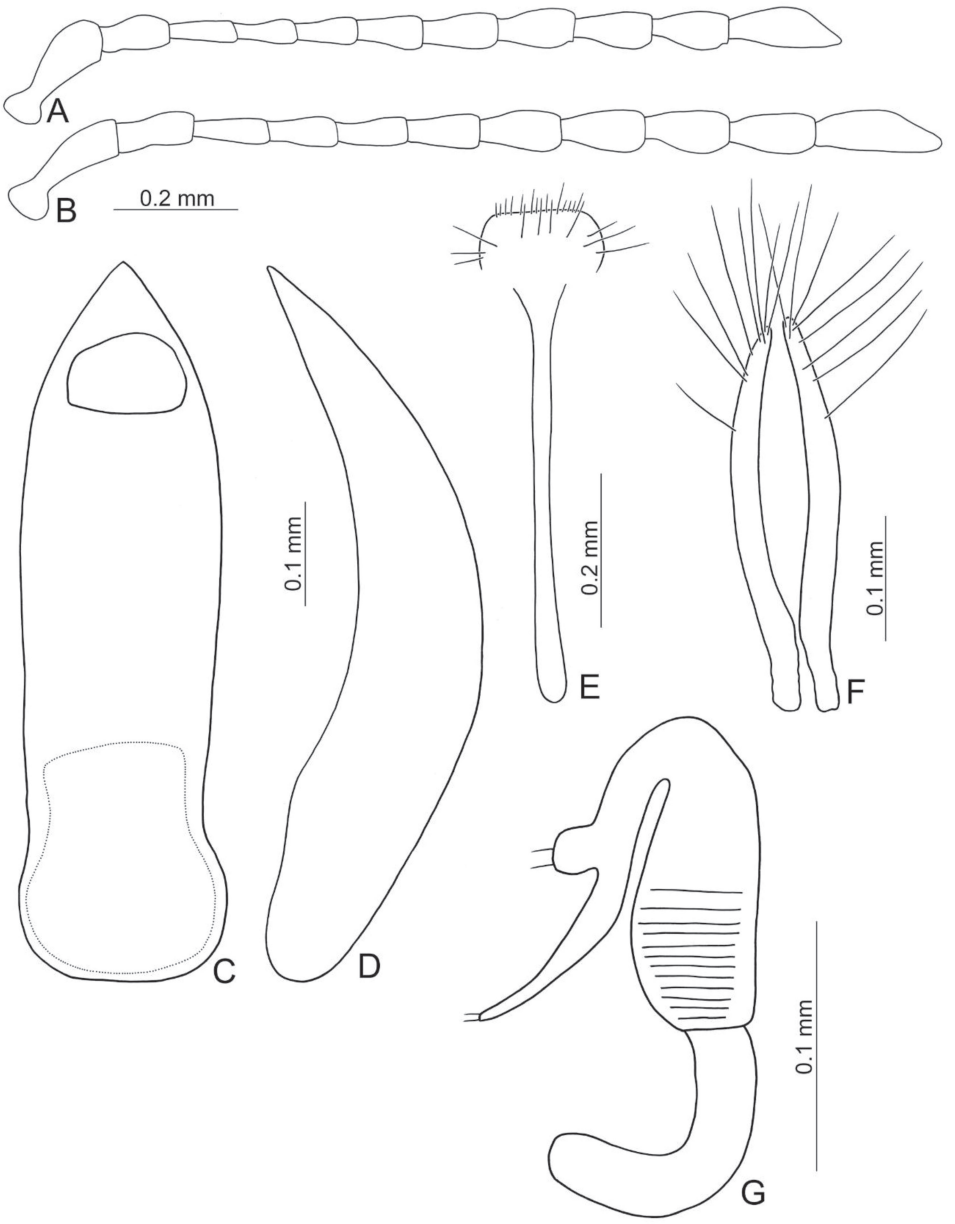

Fig. 3. Diagnostic characters of *Sinocrepis obscurofasciata*. A. antenna, male; B. antenna, female; C. aedeagus, dorsal view; D. ditto, lateral view; E. abdominal ventrite VIII, female; F. gonocoxae; G. spermatheca.

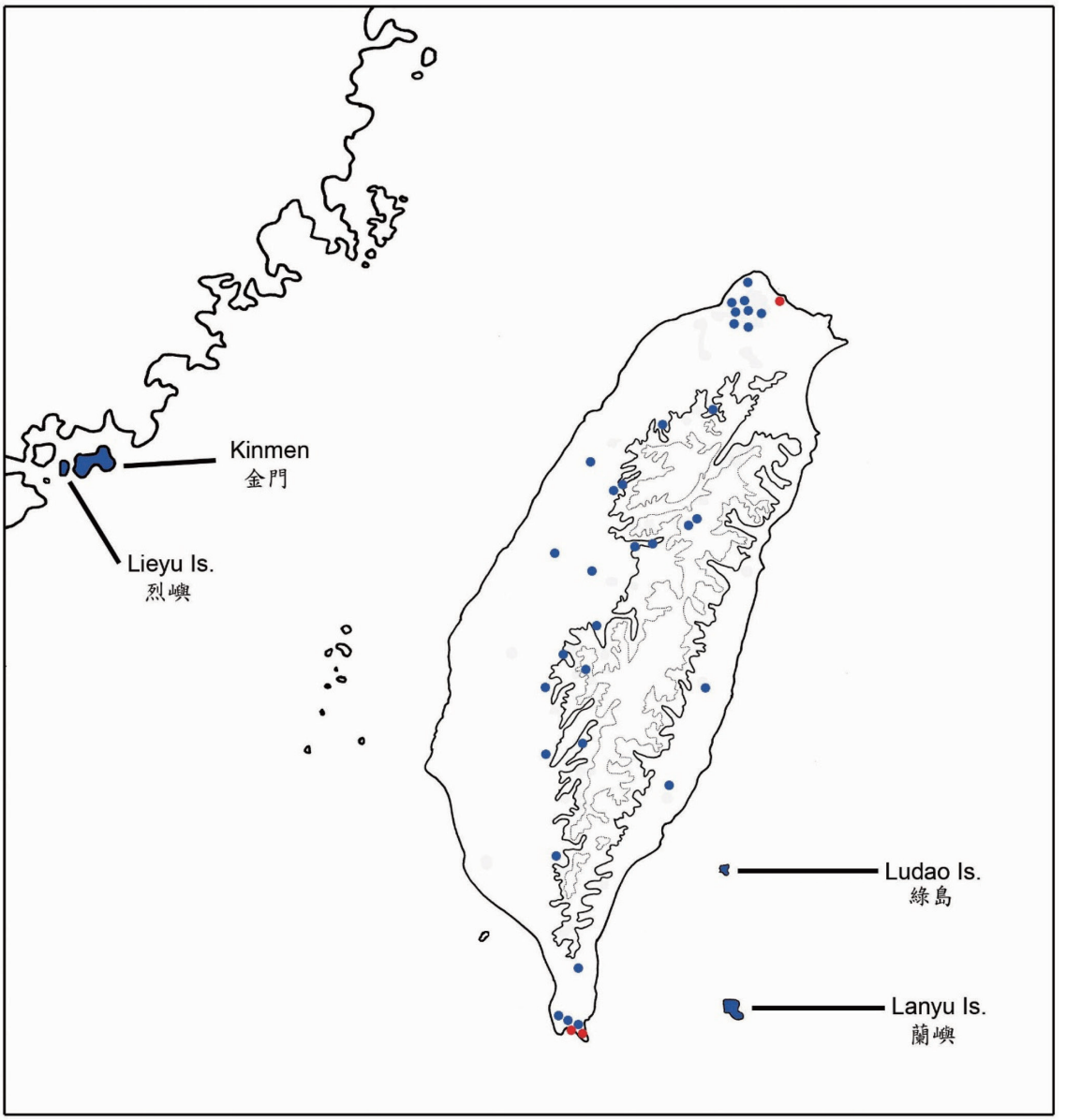

Fig. 4. Distribution map of *Sinocrepis obscurofasciata* in Taiwan, marked with red and blue circles; topographic contour lines: black: 1,000 m, gray: 2,000 m; color pattern: blue: typical populations, red color: yellow populations.

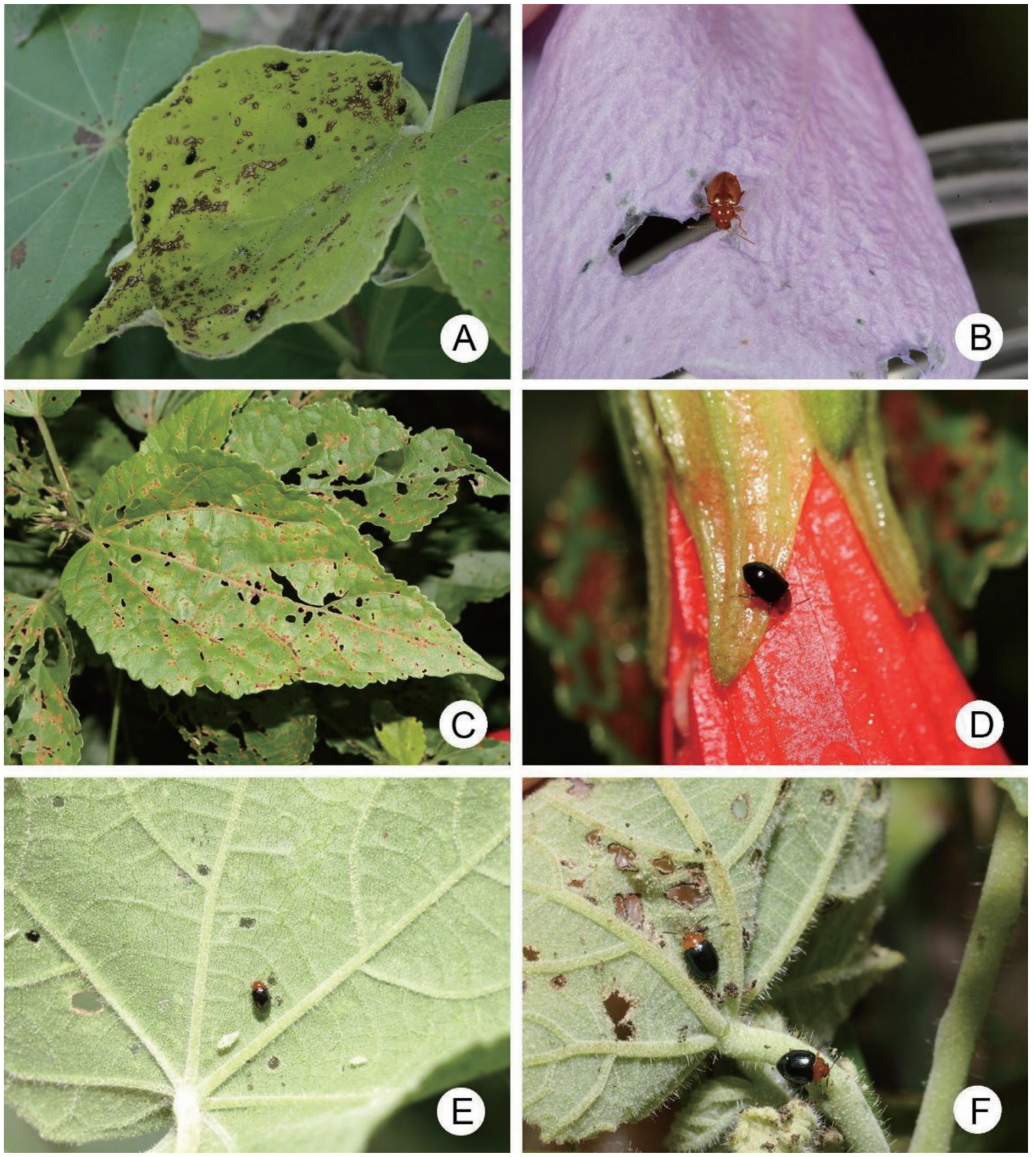

Fig. 5. Field photographs. A. several adults of *Sinocrepis obscurofasciata* feeding on leaves of *Hibiscus tiliaceus* (黃槿); B. one adult (yellow form) feeding on flower of *H. tiliaceus* (黃槿); C. feeding damage caused by adults of *S. obscurofasciata* on leaves of *Malvaviscus arboreus* (南美朱槿); D. adult of *S. obscurofasciata* feeding on flower of *M. arboreus* (南美朱槿); E. adult of *S. obscurofasciata* feeding on leaves of *H. taiwanensis* (山芙蓉); F. adults of *Nisotra nigripes* feeding on leaves of *H. taiwanensis* (山芙蓉).

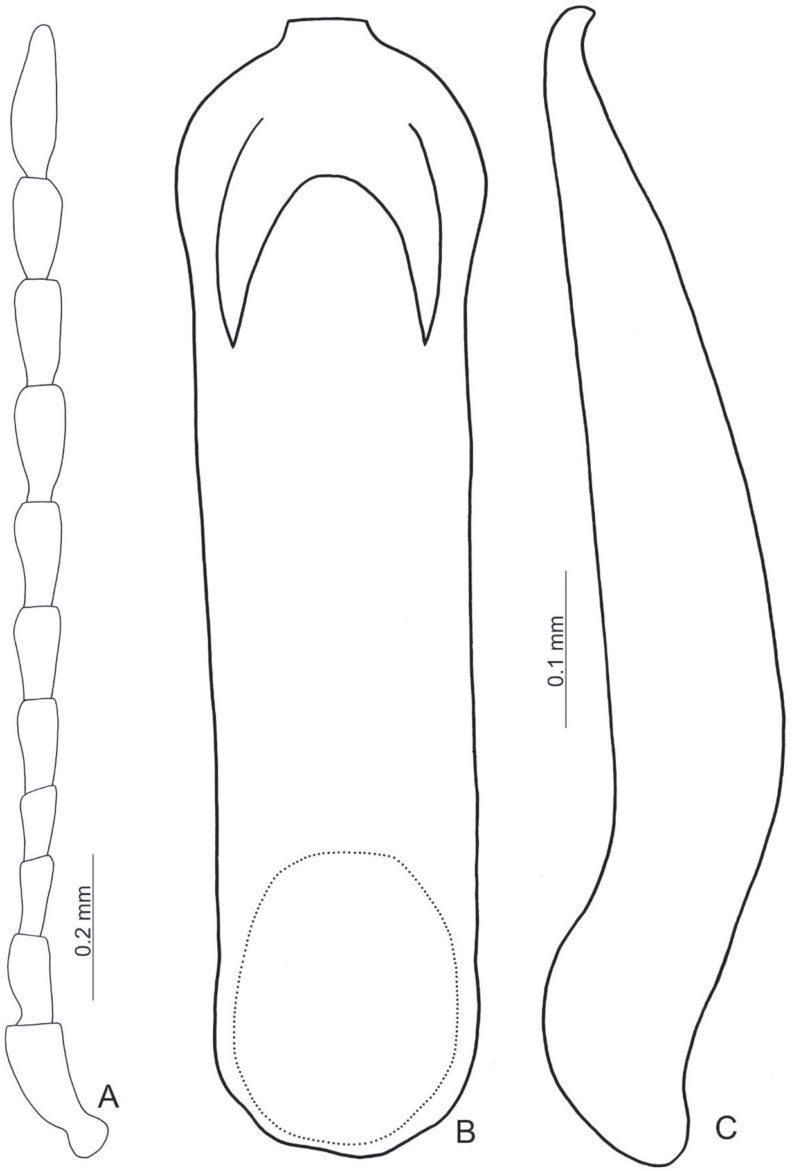

Fig. 6. Diagnostic characters of *Sinocrepis kimotoi*, sp. nov. A. antenna, male; B. aedeagus, dorsal view; C. ditto, lateral view.

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溝基葉蚤屬 (*Sinocrepis* Chen, 1933) 的分類修訂 (鞘翅目：金花蟲科：螢金花蟲亞科：葉蚤超族)

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摘要

李奇峯、江明耀。2026。溝基葉蚤屬 (*Sinocrepis* Chen, 1933) 的分類修訂 (鞘翅目：金花蟲科：螢金花蟲亞科：葉蚤超族)。台灣農業研究 75(2):201–216。

本研究重新評估溝基葉蚤屬 *Sinocrepis* Chen, 1933 所有種群名的分類地位，經由檢查模式標本及大量的標本後，本研究支持 *Sinocrepis micans* Chen, 1933 是錦葵溝基葉蚤 (*S. obscurofasciata*) 的次同物異名 (junior synonym)，而 *S. nigripennis* Chen, 1936 及 *S. fulva* Kimoto, 1996 為錦葵溝基葉蚤的新同物異名；並發表一個泰國產新種：*S. kimotoi*, sp. nov.，其模式標本是之前被錯誤鑑定為錦葵溝基葉蚤，此外本文並提供錦葵溝基葉蚤新的生物學資訊。

關鍵詞：金花蟲、錦葵科、黃槿、山芙蓉、南美朱槿。

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